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BACKGROUND DOCUMENT

ON PROPOSED AMENDMENTS TO

310 CMR 7.00: Appendix C *Operating Permit and Compliance Program*

AS REQUIRED BY THE U.S. EPA TAILORING RULE WITH RESPECT TO GREENHOUSE GASES

May 11, 2012

REGULATORY AUTHORITY:
M.G.L. c. 111, SECTION 142A - 142E
M.G.L. c. 21N, SECTION 3

Contents

A. SUMMARY

The Massachusetts Department of Environmental Protection (MassDEP) proposes to amend 310 CMR 7.00: Appendix C *Operating Permit and Compliance Program* (the title V Operating Permit program) to address the U.S. Environmental Protection Agency's (EPA) Tailoring Rule that establishes a new applicability threshold for greenhouse gas (GHG) emissions under the title V Operating Permit program and the Prevention of Significant Deterioration (PSD) permitting program.[1] These proposed amendments are only applicable to MassDEP's titleV Operating permit program. MassDEP plans to propose GHG regulations applicable to the PSD program in the near future.

In 2007, the U.S. Supreme Court ruled that GHGs fit within the definition of "air pollutant" under the federal Clean Air Act (CAA), thus setting in motion a regulatory process leading to EPA's regulation of GHG emissions under the CAA. In response to the Court's decision, on May 13, 2010, EPA issued a final rule (the Tailoring Rule) that established an applicability threshold for GHG emissions in the title V Operating Permit program. In order to conform to EPA's final Tailoring Rule, MassDEP is proposing amendments to its federally required title V Operating Permit program regulations (310 CMR 7.00: Appendix C) that add an applicability threshold for GHG emissions. These proposed amendments also are consistent with M.G.L. c. 21N (Global Warming Solutions Act), which commits the Commonwealth to address GHGs.

Under these amendments, owners of existing facilities with GHG emissions greater than the threshold, but that already have title V Operating Permits, will not need to revise their currently-effective permits. However, when an owner applies to renew its Operating Permit (required every five years), the owner will need to include an estimate of the facility's GHG emissions in the renewal application. Owners of facilities that are not currently subject to the Operating Permit program, but trigger the GHG emissions applicability threshold [100 mass basis tons per year (tpy) and 100,000 carbon dioxide-equivalent (CO_2e) tpy], will need to apply for an Operating Permit no later than one year from the effective date of the regulation or one year from becoming subject to the Operating Permit program (310 CMR 7.00: Appendix C(4)(a)).[2]

B. REGULATORY HISTORY AND PURPOSE

EPA's Tailoring Rule

On April 2, 2007, the U.S. Supreme Court found that GHGs, including carbon dioxide (CO_2), are air pollutants covered by the CAA §302(g).[3] In a 5-4 decision on a complaint brought by the Commonwealth of Massachusetts and other states, the Court found that EPA has the authority to

[1] 75 FR 31514, Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule.
[2] Mass basis refers to GHG emissions without consideration of the global warming potential of the GHGs. Carbon dioxide equivalent (CO_2e) refers to GHG emissions adjusted to account for the global warming potential of the GHGs relative to carbon dioxide.
[3] Massachusetts v. EPA 549 U.S. 497 (2007).

regulate CO_2 and other GHGs under the Clean Air Act, and that GHGs meet the definition of an air pollutant under the Act. The Court also found that EPA was required to determine whether or not emissions of GHGs from motor vehicles cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. In its decision, the Court remanded the case to EPA, requiring the agency to review its position that it has discretion in regulating CO_2 and other GHG emissions, and to evaluate whether GHG emissions endanger public health and welfare.

On December 7, 2009, EPA responded to the Court's decision by making two distinct findings regarding GHGs under section 202(a) of the CAA:

> **Endangerment Finding:** The Administrator found that the current and projected atmospheric concentrations of the six, key, well-mixed GHGs — CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6 — threaten the public health and welfare of current and future generations.
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> **Cause or Contribute Finding:** The Administrator found that the combined emissions of these well-mixed GHGs from new motor vehicles and new motor vehicle engines contribute to the greenhouse gas pollution which threatens public health and welfare.

These findings, which were published on December 15, 2009,[4] did not, by themselves, impose any requirements on industry or other entities. However, they were a prerequisite to finalizing GHG standards for light-duty vehicles.

Before finalizing its motor vehicle GHG emissions regulations, however, EPA needed to address the impact of these regulations on stationary source regulatory programs. Once EPA regulated GHG emissions, GHGs became a regulated pollutant under the CAA, which meant that the PSD and title V permitting provisions immediately applied to sources of GHG emissions. The thresholds for major source permitting under the CAA are 100 or 250 tpy of certain, specified pollutants, which, if unchanged for GHGs, would subject millions of new and existing sources to GHG permitting requirements. (See EPA's PSD Interpretive Memorandum (April 26, 1993), for its position that new pollutants become subject to PSD and title V when a rule controlling those pollutants is promulgated.[5]) EPA's Interpretive Memorandum based its conclusion on the

[4] 74 FR 66496, Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act.

[5] EPA included this policy interpretation that title V addresses 100-tpy sources of "pollutants subject to regulation" in a memorandum from Lydia Wegman, Deputy Director, Office of Air Quality Planning and Standards, U.S. EPA, "Definition of Regulated Air Pollutant for Purposes of Title V" (Apr. 26, 1993). EPA continues to maintain this interpretation. The interpretation in this memorandum was based on: (1) EPA's reading of the definitional chain for major source under title V, including the definition of "air pollutant" under section 302(g) and the definition of "major source" under 302(j); (2) the view that Congress did not intend to require a variety of sources to obtain title V permits if they are not otherwise regulated under the Act (see also CAA section 504(a), providing that title V permits are to include and assure compliance with applicable requirements under the Act); and (3) promoting consistency with the approach under the PSD program. While the specific narrow interpretation in the Wegman Memorandum of the definition of "air pollutant" in CAA section 302(g) is in question in light of the *Massachusetts v. EPA* decision (finding this definition to be "sweeping"), EPA believes the core rationale for its interpretation of the applicability of title V remains sound. EPA continues to maintain its interpretation, consistent with CAA sections 302(j), 501, 502 and 504(a), that title V applies to 100 tpy sources of pollutants subject to regulation. This interpretation is based primarily on the purpose of title V to include all regulatory requirements

current applicability threshold under section 502(a) of the title V Operating Permit program (and related definitions under sections 302 and 501).

EPA finalized light-duty vehicle GHG standards on May 7, 2010.[6] Accordingly, as soon as GHGs became regulated under the light-duty motor vehicle rule, GHG emissions were considered "pollutants subject to regulation" under the CAA and the permitting requirements under the PSD and title V Operating Permit program became applicable to GHG emissions. For the PSD program, that meant that prior to constructing any new major stationary source or a major modification to an existing source that would cause or increase GHG emissions above the major source applicability threshold, a source owner would need to obtain a PSD permit to address these emissions. Similarly, under the title V Operating Permit program, for any new or existing source that would exceed the major source applicability threshold for GHGs, the owner would have one year to submit a title V Operating Permit application if it did not already have one.

In light of the existing applicability thresholds for title V pollutants and the fact that those thresholds would have brought thousands of new facilities into the program, EPA faced a significant challenge in establishing an applicability threshold for GHGs in the title V Operating Permit program. The CAA title V Operating Permit program potential emissions applicability threshold levels for criteria pollutants are 10 tons per year for individual hazardous air pollutants (HAPs) (such as lead compounds); 25 tons per year for all aggregated HAPs; 50 tons per year for VOCs and NOx; and 100 tons per year for all other regulated pollutants. If EPA had codified the 100 tons per year threshold for GHG emissions, then very small sources, such as residential furnaces and many small businesses not otherwise regulated by either EPA or MassDEP, would have been subject to the title V Operating Permit program. This would have lead to dramatic increases in the number of facilities that would have been required to obtain a title V Operating Permit. State, local, and tribal permitting authorities would have been overwhelmed and the programs' abilities to manage air quality would have been severely impaired.

On May 13, 2010, EPA issued the final Tailoring Rule that "tailored" the applicability threshold under the CAA title V Operating Permit program that was appropriate for GHG emissions from stationary sources (75 FR 31514).[7] Under the Tailoring Rule, the Operating Permit program applies to facilities that emit or have the potential to emit at least 100 tpy GHG mass basis and 100,000 tpy CO_2e, even if they are not subject to the program based on emissions of any other pollutant. That means that in order to trigger Operating Permit program applicability, a facility's total GHG emissions must meet both the potential GHG emissions threshold of 100 tpy (on a

applicable to the source in one document to assure compliance (see CAA section 504(a)), and to promote consistency with the approach under the PSD program.

[6] 75 FR 25324, National Highway Traffic Safety Administration 40 CFR Parts 85, 86, and 600; 49 CFR Parts 531, 533, 536, et al. Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standard

[7] As stated earlier, at this time MassDEP is only addressing the effect of EPA's Tailoring rule on its Operating Permit Program.

mass basis, which means unadjusted for global warming potential) and the 100,000 tpy (CO_2e) threshold.

To determine the facility's mass-basis GHG emissions, the owner or operator must sum the total mass (in tons) of the six regulated GHGs or GHG categories that the facility has the potential to emit (PTE): Carbon Dioxide (CO_2), Methane (CH_4), Nitrous oxide (N_2O), Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs), and Sulfur hexafluoride (SF_6) expressed in terms of the amount (mass in tons) of each particular chemical. If the total is 100 tons or greater, the facility has met one applicability criteria to be subject to the Operating Permit program.

To determine the total CO_2e GHG emissions, the owner multiplies the mass-basis PTE of each individual greenhouse gas by the gas's global warming potential (GWP). GWP values are published at 40 CFR part 98 subpart A Table A-1 – Global Warming Potentials.[8] The resulting individual values are then added together to compute the total tons per year CO_2e. If the total CO_2e is 100,000 tons or greater, the facility has met the second applicability criteria. Both criteria have to be met for the facility to be subject to the Operating Permit program.

Only large facilities, such as power plants, refineries, and cement production plants, which meet both criteria, and are responsible for nearly 70 percent of the national GHG emissions from stationary sources, will be subject to permitting requirements under this rule. Small businesses that make up the vast majority of the U.S. economy will not be required to obtain a title V Operating Permit for GHGs. EPA estimated that about 550 sources nationwide will need to obtain title V Operating Permits for the first time due to their GHG emissions. While MassDEP cannot determine the exact number of additional Massachusetts facilities that will be required to obtain an Operating Permit solely because of their GHG emissions, MassDEP believes the vast majority of facilities that emit or have the potential to emit more than 100 tpy GHG mass basis and 100,000 tpy CO_2e are already among the approximately 150 Massachusetts facilities required to hold Operating Permits because they emit other pollutants that exceed the title V applicability thresholds.

In the latter half of 2010, EPA issued a series of related rules requiring states with title V programs to conform State Implementation Plans (SIPs), SIP approvals, and title V programs to the threshold in the Tailoring Rule and to ensure GHGs were considered regulated pollutants. In addition, EPA issued PSD and Title V Permitting Guidance for GHGs and a series of white papers that provide technical information that "may be useful in a Best Available Control Technology analysis, but they do not define BACT for each sector."

[8] Link http://www.epa.gov/climatechange/emissions/downloads09/RuleParts98SubpartsA-C.pdf

Massachusetts title V Operating Permit Program Regulations

Title V of the 1990 Amendments to CAA, 42 U.S.C. §7661, known as the title V Operating Permit program, required all states to develop title V Operating Permit programs. Under these programs, every major industrial source of air pollution (and some other sources) must obtain an Operating Permit, which is reviewed and renewed every 5 years. A title V Operating Permit is a compilation of all air emission standards and control requirements that apply to the facility, but does not impose any additional requirements to control or reduce emissions. EPA promulgated its title V Operating Permit program regulations at 40 CFR Part 70[9], and MassDEP subsequently promulgated its program at 310 CMR 7.00: Appendix C. Historically, GHG emissions have not been addressed by the program because they have not been regulated by EPA.

In response to the Tailoring Rule, MassDEP proposes to amend its title V Operating Permit regulation to incorporate the federal GHG threshold into the applicability section under 310 CMR 7.00: Appendix C(2). Once the regulation is promulgated, owners of facilities that trigger the GHG applicability threshold and that are not currently subject to the title V Operating Permit program will need to apply for an Operating Permit no later than one year from the effective date of the regulation or one year from becoming subject to the Operating Permit program.

In Massachusetts, there are many facilities currently subject to the title V Operating Permit program that also are subject to state GHG requirements [e.g., 310 CMR 7.70 (RGGI) and/or 7.71(GHG reporting regulation)]. The GHG requirements already are incorporated into the facilities' title V Operating Permits.[10] The owners or operators of these facilities will not need to do anything to their title V Operating Permits as a result of these proposed amendments, except that an owner of an existing title V-permitted facility with GHG emissions greater than 100 tpy (mass basis) and 100,000 tpy (CO_2e) will need to include an estimate of its GHG emissions in its next five-year periodic renewal application.

A second group of existing facilities (e.g., landfills, electronics manufacturers) that are not currently subject to the title V Operating Permit program may need to obtain an Operating Permit or cap the facility's GHG emissions so they remain below the applicability threshold. If the owner elects to not obtain an enforceable emissions cap, the owner must submit an Operating Permit application to MassDEP no later than one year from the effective date of the regulation or one year from becoming subject to the Operating Permit program. Finally, an owner of a newly constructed facility with GHG emissions greater than the threshold or of an existing facility which is modified and causes GHG emissions greater than the threshold must submit an Operating Permit application to MassDEP within one year of commencing operation or of actual emissions reaching the threshold.

[9] 57 FR 32250, Operating Permit Program, July 21, 1992.
[10] These facilities are subject to the title V Operating Permit program because the facilities' emissions trigger the title V Operating Permit program applicability thresholds already present in the regulation for criteria pollutants or HAPs.

Prevention of Significant Deterioration Program

On April 11, 2011, MassDEP began implementing the federal PSD preconstruction permitting program that includes the Tailoring Rule's applicability threshold for GHG emissions. When a facility proposes to construct or modify a stationary source that exceeds the GHG applicability threshold, then it must obtain a PSD permit for its GHG emissions from MassDEP. The applicability threshold for PSD permits is the same as the threshold proposed for the Operating Permit program (100 tpy GHG mass basis and 100,000 tons per year CO_2e), in conjunction with 100 or 250 tpy mass basis for other pollutants depending on the type of facility. The PSD significant increase threshold for major modifications of major stationary source facilities is 75,000 tpy CO_2e with any mass basis increase greater than zero.

On a parallel track, MassDEP is developing a Massachusetts-specific PSD program, which will include the same applicability thresholds for criteria pollutants and GHGs as contained in the federal PSD regulation currently in force. The Massachusetts PSD program is a significant rulemaking endeavor that will be submitted to EPA for review and approval as a State Implementation Plan (SIP) revision under 40 CFR 52.166 to replace the federal PSD program in Massachusetts. MassDEP expects to propose the Massachusetts PSD program regulations for review and public comment by the end of 2012.

C. DESCRIPTION OF AMENDMENTS

The proposed amendments establish a GHG permitting threshold in 310 CMR 7.00: Appendix C and are structured to provide consistency between 310 CMR 7.00: Appendix C and the corresponding EPA regulation, 40 CFR Part 70. The amendments:

- Amend 310 CMR 7.00: Appendix C(2)(a) to create a general applicability threshold of 100 tons mass basis of GHG and 100,000 tons CO_2e for GHG emissions.
- Add definitions of the following terms: Carbon Dioxide Equivalent, Greenhouse Gas, and GHG Mass Basis.

D. AIR QUALITY IMPACTS

The proposed amendments are intended to bring GHG emitting facilities into the existing title V Operating Permit program. A title V operating permit is a compilation of all air emission standards and control requirements that apply to a facility, but does not impose any additional requirements to control or reduce emissions. Therefore, the expansion of applicability of these permits to facilities that emit more than threshold amounts of GHGs will not directly affect air quality. However, to the extent that facilities choose to restrict their GHG emissions to avoid reaching the applicability threshold of the title V Operating Permit program, the regulations would have a positive effect on air quality.

E. IMPACT ON SMALL BUSINESS

By setting the GHG permitting threshold the same as the EPA Tailoring Rule threshold, the proposed amendments help shield small businesses from the possibility that they would be required to obtain title V operating permits based on GHG emissions that exceed the 100 ton per year maximum threshold that applies for other air pollutants. Therefore, no impacts on small businesses are anticipated.

F. IMPACTS ON CITIES AND TOWNS (Proposition 2 1/2)

Pursuant to Executive Order 145, MassDEP must assess the fiscal impact of new regulations on the state's municipalities. The Executive Order was issued in response to Proposition 2 1/2, M.G.L. c. 29 s. 27 C(a) which requires the state to reimburse municipalities for costs incurred as a consequence of new state laws and regulations.

Under 310 CMR 7.00: *Appendix C*, municipal facilities such as power generating facilities, heating plants with large boilers, and incinerators that meet the applicability thresholds as defined under the provisions of the Clean Air Act are required to obtain operating permits. Currently, MassDEP estimates that fifteen state and municipally-owned facilities in Massachusetts are currently subject to the operating permit regulations.

It is possible that a small number of additional municipally-owned facilities could be subject to the program as result of the proposed amendments. However, costs associated with operating these facilities would not be subject to Proposition 2 ½ unless they were associated with a mandated municipal service. In general, large emissions sources are not necessary to deliver mandated municipal services. For example, operating a power plant is not a mandated municipal service.[11] Furthermore, because the program does not include any requirements to control pollutants, any costs are expected to be minimal.

G. AGRICULTURAL IMPACTS

The proposed amendments are not expected to have any negative impacts on agricultural production in Massachusetts because they generally do not apply to agricultural operations.

H. MASSACHUSETTS ENVIRONMENTAL POLICY ACT (MEPA)

The proposed amendments are exempt from the "Regulations Governing the Preparation of Environmental Impact Reports," 301 CMR 11.00, in that no MEPA review threshold set forth in 310 CMR 11.03 is met or exceeded. In addition, these proposed amendments do not reduce

[11] Town of Norfolk v. Department of Environmental Quality Engineering, 407 Mass 233 (1990)

standards for environmental protection, nor do they reduce opportunities for public participation in review processes or public access to information generated or provided in accordance with the regulations. (See MEPA review threshold pertaining to promulgation of regulations at 301 CMR 11.03(12)).

I. SOURCE REDUCTION

The implementation of source reduction is a MassDEP priority, and is defined as in-plant practices that reduce or eliminate the total mass of contaminants discharged into the environment. The proposed amendments will not have any immediate or direct impact on source reduction because they do not include any requirements to reduce or eliminate emissions. However, in the longer term, bringing additional emissions sources into the Operating Permit program has the potential to contribute to source reduction by facilitating the implementation of other requirements to reduce criteria air pollutant and greenhouse gas emissions. Alternatively, an owner or operator of a facility subject to the program due to the new applicability threshold may take steps to ensure that the facility's emissions are below the applicability threshold.

J. PUBLIC PARTICIPATION

As provided by state law, M.G.L. chapter 30A, MassDEP must give notice and provide the opportunity to review background and technical information at least 21 days prior to holding a public hearing. Since federal law mandates the proposed amendments, formal notice will be issued 30 days before the public hearing. The hearing will be held in accordance with the procedures of M.G.L. Chapter 30A. The public hearing notice and proposed amendments are available on MassDEP's website at: www.mass.gov/dep/public/publiche.htm. For further information, please contact Marc Wolman at (617) 292-5515 or Karen Regas at (617) 292-5624.